

REMARKS

Claims 5-10 have been amended and claims 5-11 are pending in the application and are presented for examination in view of the foregoing amendments and following remarks.

The Final Office Action of May 10, 2004 has been reviewed and the comments therein carefully considered. In the outstanding Final Office Action claims 5-8, and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,254,531 to Higuchi et al.; and claims 9 and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,254,531 to Higuchi et al. as applied to claims 5-8 and further in view of U.S. Patent No. 5,459,520 to Sasaki.

By this Amendment claims 5-10 are amended. Claim 5 now includes a feature that an iris mechanism functions as a mechanical shutter. Support for this feature can be found in the specification at page 16, lines 21-27. Additional amendments include the removal of means-plus-function language.

It is therefore respectfully submitted that the above amendments introduce no new matter within the meaning of 35 U.S.C. § 132.

Rejection under 35 U.S.C. § 103

The Examiner rejected claims 5-8, and 11 as being unpatentable over Higuchi et al.; and rejected claims 9 and 10 as being unpatentable over Higuchi et al. in view of Sasaki. As amended, Applicants respectfully traverse these rejections.

To establish a *prima facie* case of obviousness, the Examiner must establish: (1) that some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all the claim limitations. Amgen, Inc. v. Chugai Pharm. Co., 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); In re Fine, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); In re Wilson, 165 USPQ 494, 496 (C.C.P.A. 1970).

The first feature of the present invention resides in that a still-picture pickup mode is realized by using an iris, which is necessary for an image pickup apparatus having a moving-picture pickup mode. Specifically, when the moving -picture pickup mode is switched into the still-picture pickup mode, a controller allows the iris to function as a mechanical shutter (emphasis added) so as to intercept an incident light upon a charge-coupled device (see the specification at page 16, lines 21-27).

According to the first constitution of the present invention, a substantial decrease in cost can be realized compared with a constitution in which a diaphragm 35 and a shielding plate 36 are separately provided such as in Higuchi et al., and accordingly an image pickup apparatus having a moving-picture pickup mode and a still-picture pickup mode can be realized at a low price. This feature is not disclosed in Sasaki.

Higuchi et al. discloses an electronic-endoscope light quantity controlling apparatus for supplying light to a light guide 15 arranged in a scope 10. A diaphragm 35 and a light shielding plate 36 (a shielding means) are arranged between the light source 14 and an incident end of the light guide 15. See column 6, lines 52-63.

In contrast to the controller of the present invention that allows the iris mechanism to function as a mechanical shutter as claimed in claim 5, as shown in FIG. 10(B) of Higuchi et al., signals are accumulated in accumulation (exposure) time T of an electronic shutter during the forgoing period of 1/60 second, and the accumulation mixed signal is read out during the next 1/60 second period. In addition, FIG. 4(H) of Higuchi et al. shows an electronic shutter pulse that sweeps away charges accumulated during the rise period while reading out charges accumulated during the fall period. Thus, Higuchi et al. fails to teach or suggest all the claim limitations.

Next, the second feature of the present invention resides in that there are provided a first picture-display format converter that decreases a horizontal pixel density of the still-picture frame image having a first picture-display format generated by the still-picture generator to convert the first picture-display format thereof into a second picture-display format; a second picture-display format converter that increases the horizontal pixel density of the still-picture frame image having the second picture-display format to convert the second picture-display format thereof into the first picture-display format.

According to this constitution of the present invention, a still picture can be obtained from a moving picture while still pictures can be output as a moving picture. Neither Higuchi et al. or Sasaki teach or suggest this feature.

Sasaki teaches an electronic camera with an over-sampling filter and method for over-sampling and interpolating electronic camera image data. A frame of image data ($n \times m$ pixels) is converted into output image data ($n' \times m'$ pixels) so that the $n' \times m'$ converted pixels define a lattice of square pixels. See column 11, lines 30-38.

Sasaki was merely cited for allegedly teaching a display-format converting means. However, Sasaki fails to cure the deficiencies of Higuchi et al. as the reference fails to teach or suggest a controller according to claim 5 of the present invention. Further, the data conversion in Sasaki is merely from a $n \times m$ to $n' \times m'$. There is no conversion of a first picture-display format into a second picture-display format; and a second picture-display format into a first picture-display format as recited in claims 7 - 10 of the present invention.

Moreover, as claims 6 and 11 depend from claim 5, which is believed to be allowable, Applicants submit that claims 6 and 11 are also allowable.

From the foregoing descriptions, the Applicants respectfully submit that the present claims patentably define over Higuchi et al. and Sasaki.

CONCLUSION

In light of the foregoing, Applicants submit that the application is in condition for allowance. If the Examiner believes the application is not in condition for allowance, Applicants respectfully

request that the Examiner contact the undersigned attorney if it is believed that such contact will expedite the prosecution of the application.

Respectfully submitted,

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Date: August 9, 2004

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